

## CLAIMS

1. A means for

setting an equivalent normal line in each top of a polygonal plane patch as basic form necessary for form generation with tangent plane and  
setting a tangent line decomposing normal line setting on a tangent plane equivalent to a normal line.

2. A means for

specifying a tangent line of a direction which is concerned with a position setting new tangent plane between two opposite tangent planes and a means for specifying a tangent line of a direction which is concerned with a position based on a specified position information and tangent line information.

3. A means for

specifying a position which sets a new tangent plane using a set tangent between deal with two tangent planes based on the means of 1 described above, and  
for setting an equivalent normal line based on a specified position information with a tangent plane for a specified position.

4. A means for

setting a normal line which is decomposed on an equivalent tangent plane based on the means of 2 or 3 described above and for setting a tangent line.

5. A means for

setting a normal line which is equivalent to a tangent plane as a new vertex (top position) of a composition point which sets a tangent plane for a plane form generation based on the means of 4 described above and based on the means of 2 and 3 described above by setting a tangent line.

6. A shape generating system

that forms a plane shape of a requirement covering a full face of a basic patch in a tangent plane since a basic patch is constituted as a shape of a desire by sequentially constituting a tangent plane reflexively repeatedly using the means of 5 described above.

**7. A shape generating system**

that constitutes a plane shape body of a desire having a means for compositionally forming a shape by sequentially controlling a necessary shape generating stage described above in each basis patch which must form a plane shape on each basis patch which constitutes a polyhedron.

**8. A recording medium of shape generating program**

that constitutes a plane shape body of desire having a means for compositionally forming a shape by sequentially controlling a necessary shape generating stage described above in each basis patch which must form a plane shape on each basis patch which constitutes a polyhedron.